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Report of the Secretary-General on the protection of the environment in times of armed conflict

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I. INTRODUCTION

1. On 25 November 1992, the General Assembly adopted resolution 47/37 entitled "Protection of the environment in times of armed conflict". In paragraph 4 of the resolution, the General Assembly requested the Secretary-General to invite the International Committee of the Red Cross to report on activities undertaken by the Committee and other relevant bodies with regard to the protection of the environment in times of armed conflict and to submit a report to the General Assembly at its forty-eighth session, under the item entitled "United Nations Decade of International Law", on activities reported by the Committee.

2. Pursuant to that request, the Secretary-General, by a letter dated 18 January 1993, invited the International Committee of the Red Cross (ICRC) to transmit to him for inclusion in the report the information requested in operative paragraph 4 of General Assembly resolution 47/37.

3. The reply of ICRC is reproduced in section II below.

II. INFORMATION RECEIVED FROM THE INTERNATIONAL COMMITTEE OF THE RED CROSS

A. Foreword

4. The present report, submitted to the General Assembly at its forty-eighth session, follows on a report prepared by ICRC in 1992 and examined by the General Assembly at its forty-seventh session (A/47/328).

5. On that occasion, the General Assembly invited ICRC to pursue its work on the subject and to report to it at its forty-eighth session.

6. The present report supplements document A/47/328 by including a review of work of experts conducted under ICRC auspices over the past year. As a follow-up to a request made at the forty-seventh session of the General Assembly, it also contains a set of basic rules as "Guidelines for military manuals and instructions on the protection of the environment in times of armed conflict" (see annex).

7. For maximum clarity, ICRC has opted for an overall report on the issue. The present document therefore takes up - at times in a slightly summarized form - the main elements of document A/47/328, which may be considered as an interim report, superseded by the present report.

B. Introduction

8. In recent decades, many armed conflicts have involved a wide range of threats to the environment. These have included long-lasting chemical pollution on land; maritime and atmospheric pollution; despoliation of land by mines and other dangerous objects; and threats to water supplies and other necessities of life. The consequences have affected not only belligerents, but also civilians and neutral States; and they have sometimes continued long after the end of the

armed conflict. Such threats to the environment expose many difficult problems. Protection of the environment is of course only one of many considerations that must be borne in mind by those involved in armed conflicts, but it is an important one. The subject has come to be extensively discussed in national and international forums, including the United Nations.

9. On 9 December 1991, the General Assembly concluded its deliberations on the item entitled "Exploitation of the environment as a weapon in times of armed conflict and the taking of practical measures to prevent such exploitation", with the adoption of decision 46/417, which reads as follows:

> "The General Assembly
>
> "(a) Took note that the protection of the environment in times of armed conflict was to be addressed at the Twenty-sixth International Conference of the Red Cross and Red Crescent;
>
> "(b) Decided to request the Secretary-General to report to the General Assembly at its forty-seventh session on activities undertaken in the framework of the International Red Cross with regard to that issue;
>
> "(c) Also decided to include in the provisional agenda of its forty-seventh session the item entitled 'Protection of the environment in times of armed conflict'."

10. The international community has given ICRC a mandate "to work for the understanding and dissemination of knowledge of international humanitarian law applicable in armed conflicts and to prepare any development thereof". 1/ ICRC has declared itself ready to undertake work aimed at protecting the environment in wartime and has submitted the results of its work to the forty-seventh session of the General Assembly. That report (A/47/328), drawn up in response to the request contained in paragraph (b) of the decision quoted above, has been examined by the Sixth (Legal) Committee during the forty-seventh session under item 136 of the agenda.

11. There is no need to review in detail the debate which took place in the Sixth Committee, since records of its proceedings are available (see A/47/591 and A/C.6/47/SR.8, 9 and 19). Mention should be made, however, of some of the items which were examined more thoroughly, and of the main conclusions reached by the Committee.

12. Most of the States that took part in the debate (as well as ICRC) recognized the importance and relevance of existing rules and called for them to be implemented and respected.

13. Some States felt that the existing rules were sufficient and that what was needed was ensuring greater compliance with them. However, most of the States represented thought it also necessary to clarify and interpret the scope and content of some of those rules, and even to develop other aspects of the law relating to the protection of the environment in times of armed conflict.

14. These include the need for better protection of the environment as such; the need for stricter application of the principle of proportionality (and, to

this end, for a more precise definition of its scope in specific situations), the importance of defining more precisely the threshold of application of the rules; the need for a clear decision regarding the applicability in wartime of provisions of international environmental law; and the advisability of setting up a mechanism to sanction breaches thereof.

15. The suggestions aiming for a complete overhaul of existing law were not deemed opportune.

16. The debate led to the adoption of General Assembly resolution A/47/37, in which the Assembly called on States to accede to the treaties in force and apply their provisions, in particular by incorporating them in their military manuals. Furthermore, the resolution invited ICRC to continue its work on the question, to prepare a handbook of model guidelines for military manuals and to submit to the Assembly at its forty-eighth session a report to be examined under the agenda item devoted to the United Nations Decade of International Law.

17. The present report begins by recalling the main provisions of existing law (C). It then goes on to list the results of the principal activities carried out recently by various organizations (D) and under ICRC auspices (E). Section F describes the position of ICRC on issues relative to the protection of the environment in times of armed conflict, and section G presents some conclusions. As mentioned above, the annex contains "guidelines for military manuals and instructions on the protection of the environment in times of armed conflict".

C. Report on existing law

1. Background

18. Since its inception, international humanitarian law has set limits on the right of belligerents to cause suffering and injury to people and to wreak destruction on objects, including objects belonging to the environment. It has traditionally been concerned with limiting the use of certain kinds of weapons or means of warfare that continue to do damage even after a war is over, or that may injure people or property of States which are completely uninvolved in the conflict.

19. The Declaration of St. Petersburg of 1868 expressed this idea in the following terms:

> "the only legitimate object which States should endeavour to accomplish during war is to weaken the military forces of the enemy ...".

20. Restating article 22 of the Hague Regulations of 1907 (see paras. 26-30 below), article 35, paragraph 1, of the Protocol Additional to the Geneva Conventions of 12 August 1949, and relating to the Protection of Victims of International Armed Conflicts (Protocol I) of 1977 (see paras. 31-38 below), expresses this fundamental rule as follows:

> "In any armed conflict, the right of the Parties to the conflict to choose methods or means of warfare is not unlimited".

21. The concept of proportionality also sets important limits on warfare: the only acts of war permitted are those that are proportional to the lawful objective of a military operation and actually necessary to achieve that objective.

22. These fundamental rules are now part of customary international law, which is binding on the whole community of nations. They are also applicable to the protection of the environment against acts of warfare.

23. The rules of international humanitarian law have been drawn up to address the specific problems caused by warfare. As such, they are applicable as soon as an armed conflict breaks out.

24. In addition to the rules of law pertaining to warfare, general (peacetime) provisions on the protection of the environment may continue to be applicable. This holds true in particular for the relations between a belligerent State and third States.

25. The following paragraphs review the major international legal rules which are relevant to the protection of the environment in times of armed conflict.

2. International rules concerning the protection of property

26. In common with the rest of international law, international humanitarian law has been slow in recognizing that the environment requires protection by a set of rules of law specific to it. Thus, the word "environment" does not appear in the Hague Regulations or in the 1949 Geneva Conventions, and none of those treaties addresses specific environmental issues. However, article 23, paragraph 1 (g), of the Hague Regulations 2/ states that it is forbidden "to destroy or seize the enemy's property, unless such destruction or seizure be imperatively demanded by the necessities of war".

27. The destruction of property in times of armed conflict is also restricted by customary international law. The Principles of International Law Recognized in the Charter of the Nuremberg Tribunal and in the Judgment of the Tribunal, which were unanimously affirmed by the United Nations General Assembly, have codified this customary law. 3/ The sixth of these Principles lists crimes that are punishable as crimes under international law, divided into three categories: crimes against peace, war crimes and crimes against humanity. At the end of the list of war crimes in paragraph (b) appears "wanton destruction of cities, towns or villages, or devastation not justified by military necessity". In its comments the International Law Commission noted that the Nuremberg Tribunal had pointed out that the war crimes defined by article 6 (b) of its Charter were already recognized as war crimes under international law. This was because the resolutions annexed to the Hague Convention IV of 1907, particularly article 23, paragraph 1 (g), thereof which prohibits destruction which is not "imperatively demanded by the necessities of war", had in 1939 acquired the status of customary rules of international law.

28. In the event of military occupation, article 55 of the Hague Regulations and article 53 of the Fourth Geneva Convention set limits to the discretion of

the Occupying Power, as far as the destruction of property is concerned. The latter rule is worth quoting:

> "Any destruction by the Occupying Power of real or personal property belonging individually or collectively to private persons, or to the State, or to other public authorities, or to social or cooperative organizations, is prohibited, except where such destruction is rendered absolutely necessary by military operations."

29. A Party to a conflict that destroys, for example, property protected by the Fourth Geneva Convention and in so doing causes damage to the environment violates that Convention, if such destruction is not rendered "absolutely" necessary by military operations. If such destruction is "extensive", the act becomes a grave breach of that same Convention (art. 147), that is, a war crime.

30. The rules discussed in this section do not relate to environmental issues explicitly, but they do protect the environment by prohibiting the wanton or unjustified destruction of property.

3. International rules concerning the protection of the environment as such

31. Protocol I includes two provisions which deal directly with the dangers that modern warfare represents for the environment. They protect the environment as such, although they do so in relation to human beings, who are the principal concern of international humanitarian law. Those rules are article 35, paragraph 3 and article 55:

> Article 35 - Basic rules
>
> "3. It is prohibited to employ methods or means of warfare which are intended, or may be expected, to cause widespread, long-term and severe damage to the natural environment."
>
> Article 55 - Protection of the natural environment
>
> "1. Care shall be taken in warfare to protect the natural environment against widespread, long-term and severe damage. This protection includes a prohibition of the use of methods or means of warfare which are intended or may be expected to cause such damage to the natural environment and thereby to prejudice the health or survival of the population."
>
> "2. Attacks against the natural environment by way of reprisals are prohibited."

32. Article 35 sets out the general rule applicable to all acts of warfare, whereas article 55 is intended to protect the civilian population from the effects of warfare on the environment. In both cases, the following are prohibited: (a) attacks on the environment as such; and (b) using the environment as an instrument of warfare.

33. Article 35, paragraph 3, and article 55 prohibit only such damage to the environment as is "widespread, long-term and severe", thereby making it clear that not all damage to the environment is outlawed. Indeed, damage to the environment is unavoidable in war. The point at issue, therefore, is where to set the threshold.

34. The question as to what constitutes "widespread, long-term and severe" damage and what is acceptable damage to the environment is open to interpretation. There are substantial grounds, including from the travaux préparatoires of Protocol I, for interpreting "long-term" to refer to decades rather than months. On the other hand, it is not easy to know in advance exactly what the scope and duration of some environmentally damaging acts will be; and there is a need to limit as far as possible environmental damage even in cases where it is not certain to meet a strict interpretation of the criteria of "widespread, long-term and severe". Because Protocol I, as at present interpreted, does not necessarily cover all cases of damage to the environment and because not all States are party to it, the earlier conventional and customary rules, especially those of The Hague (1907) and Geneva (1949), continue to be very important.

35. Besides article 35, paragraph 3, and article 55, other provisions of Protocol I touch incidentally on protection of the environment in armed conflict. In particular, article 56 deals with the danger to the environment resulting from the destruction of dams, dykes or nuclear electrical generating stations. Under the heading "Protection of objects indispensable to the survival of the civilian population", article 54 prohibits in certain circumstances the destruction of, among other things, agricultural areas or irrigation works. Articles 52 ("General protection of civilian objects") and 57 ("Precautions in attack") also have an important bearing on the protection of the environment.

36. Finally, Article 36 obliges the parties to Protocol I to determine whether the acquisition, development or use of a new weapon would be compatible with international law. Of course, the rules on the protection of the environment are to be taken into account during this assessment.

37. In conclusion, the provisions of Protocol I usefully supplement earlier principles and rules of international humanitarian law, and contain some important rules prohibiting a wide range of acts destructive of the environment in times of armed conflict.

38. As at 16 June 1993, 125 States are party to Protocol I. Its provisions on environmental protection are therefore binding international law for the majority of States, but not yet for all of them.

4. Other international rules

39. A number of other international instruments have a direct bearing on the protection of the environment in times of armed conflict. Without going into detail, the following treaties should be mentioned:

(a) Protocol for the Prohibition of the Use in War of Asphyxiating, Poisonous or Other Gases, and of Bacteriological Methods of Warfare, of 17 June 1925;

(b) Convention on the Prohibition of the Development, Production and Stockpiling of Bacteriological (Biological) and Toxin Weapons and on their Destruction, of 10 April 1972 (General Assembly resolution 2826 (XXVI));

(c) Convention on the Prohibition of the Development, Production, Stockpiling and Use of Chemical Weapons and on their Destruction, of 13 January 1993. This Convention should play a most important role, considering the fact that some chemical weapons may have very long-lasting, widespread and severe effects;

(d) Convention for the Protection of Cultural Property in the Event of Armed Conflict, of 14 May 1954;

(e) Convention concerning the Protection of the World Cultural and Natural Heritage, of 23 November 1972;

(f) Convention on the Prohibition of Military or Any Other Hostile Use of Environmental Modification Techniques (ENMOD Convention), of 10 December 1976 (General Assembly resolution 31/72). The last-mentioned Convention, which was drafted under the auspices of the Committee on Disarmament, is intended to prohibit military or any other hostile use of "environmental modification techniques having widespread, long-lasting or severe effects as the means of destruction, damage or injury to any other State Party" (art. 1). The Convention is thus primarily concerned with prohibiting the use of the forces of the environment as weapons. In so doing, of course, it inevitably outlaws damage to the environment resulting from the use of such methods of warfare;

(g) Convention on Prohibitions or Restrictions on the Use of Certain Conventional Weapons which may be Deemed to be Excessively Injurious or to have Indiscriminate Effects, of 10 October 1980. This Convention was concluded under United Nations auspices and is intended, as its name implies, to prohibit or restrict the use of certain weapons. To date, it has three annexed protocols dealing with (a) non-detectable fragments, (b) mines, booby-traps and other devices, and (c) incendiary weapons. The second and third of these should make a useful contribution to protecting the environment in times of armed conflict.

40. Furthermore, all other international rules limiting the development, production, testing or use of weapons of mass destruction make a significant contribution to the protection of the environment in times of armed conflict.

5. The special case of non-international armed conflict

41. The rules protecting the victims of non-international armed conflict are less well developed than those governing international armed conflict.

42. Article 3, common to the four Geneva Conventions of 1949 does not say anything about protecting the environment during civil wars; it addresses only humanitarian issues in the strictest sense.

43. The Protocol Additional to the Geneva Conventions of 12 August 1949, and relating to the Protection of Victims of Non-International Armed Conflicts (Protocol II), of 1977, contains no provisions relating explicitly to the environment. However, article 14, on the protection of objects indispensable to the survival of the civilian population, has a direct impact on warfare and the environment, with its prohibition of attacks on agricultural areas, irrigation works, and so on.

44. The same applies to article 15, which protects "works and installations containing dangerous forces". These two provisions are applicable in the event of non-international armed conflict, their scope and content being very similar to those of articles 52, 54 and 56 of Protocol I, applicable in international armed conflicts. Other legal provisions regarding the environment, for example, rules of general or bilateral international treaties, remain applicable in principle to a State in which there is an internal conflict.

6. The question of implementation

45. The treaties of international humanitarian law provide various mechanisms - some of them very complex - for implementing their substantive provisions. Among these mechanisms it is worth mentioning the following: (a) the international responsibility of States; (b) the principle of individual criminal responsibility; (c) the obligation of States to ensure that the provisions of the Geneva Conventions and their Additional Protocols are known as widely as possible; (d) the system of Protecting Powers; (e) the International Fact-Finding Commission; (f) specific functions assigned to ICRC to interpret and monitor the implementation of international humanitarian law.

46. In addition, other international - including regional - institutions and treaties bearing on environmental issues have their own monitoring and implementation mechanisms, which may be important in dealing with a wide range of cases of environmental damage in times of armed conflict, although for the moment their mandates do not clearly extend beyond peacetime situations.

(a) The international responsibility of States

47. Article 1, common to the four Geneva Conventions and to Protocol I, stipulates that the contracting States are under an obligation "to respect and to ensure respect for" those instruments. Beyond that, and on a more general level, a State is responsible for every act or omission attributable to it and amounting to a breach of an international obligation incumbent on it, including in the field of the international protection of the environment. States affected by such a breach are entitled to insist on the implementation of such rules of State responsibility, including cessation of the unlawful conduct, restitution and reparation.

(b) Individual criminal responsibility

48. The principle of the individual criminal responsibility of the perpetrator of certain breaches of international law, including those bearing on the environment in times of armed conflict, as well as of the person ordering the

commission of such acts, is of critical importance. It is firmly rooted in both customary and treaty law, such as the Regulations annexed to the Hague Convention IV of 1907 and the provisions of the Geneva Conventions relating to grave breaches.

49. Under international law, States have a clear duty to bring to justice all persons suspected of having committed or ordered the commission of such acts. Moreover, trials have been conducted (Nuremberg and Tokyo) or are planned to take place (for the former Yugoslavia, under Security Council resolutions 808 of 22 February 1993 and 827 of 25 May 1993) on the international level.

50. Additionally, the International Law Commission is working on a draft treaty for the establishment of a permanent international criminal jurisdiction, which may be called upon, inter alia, to ensure respect for rules of international law bearing on the protection of the environment in times of armed conflict.

(c) Obligation to spread knowledge of international humanitarian law

51. Each State Party to the Geneva Conventions or to their Additional Protocols must ensure that the text of these treaties is disseminated as widely as possible throughout its territory in both peacetime and wartime. The States must, inter alia, incorporate study of the subject into their programmes of military and, if possible, civilian instruction.

(d) The system of Protecting Powers

52. Under the Geneva Conventions of 1949 and their Additional Protocol I of 1977, the role of Protecting Powers is to attend to the implementation of the provisions of those treaties and to safeguard the interests of the Parties to a conflict and of their nationals on enemy territory.

(e) International Fact-Finding Commission (Protocol I, article 90)

53. This Commission has the mandate, in the event of an alleged violation of international humanitarian law during an international armed conflict, to ascertain the facts and to offer its services to the Parties concerned with a view to preventing further violations. Obviously, the Commission could render invaluable service should there be violations causing damage to the environment in times of armed conflict. The Commission's permanent competence depends on a special declaration of acceptance (art. 90, para. 2). Thirty-four States have now made that declaration, and the Commission was constituted in June 1991. States that have not made such a declaration may also make use of the services of the Commission on an ad hoc basis.

(f) Role of the International Committee of the Red Cross and other interested organizations

54. ICRC is a neutral and independent humanitarian institution, the main mission of which is to provide assistance and protection to the victims of armed conflict. The international community has given it a number of mandates that are precisely defined in the Geneva Conventions. The institution may find itself acting as a substitute for Protecting Powers. It also has a recognized right of initiative. In addition, ICRC can also count on the support of the

National Red Cross and Red Crescent Societies and of their Federation. Its role in monitoring the implementation of international humanitarian law may indeed include aspects related to the protection of the environment.

55. Other international or non-governmental organizations involved in emergency work during armed conflict may also help prevent damage or take remedial action.

D. Principal activities in recent years

56. Much important work was undertaken in the early 1970s in connection with protecting the environment in times of armed conflict. This process led to the adoption of the main international rules governing this area, in particular the ENMOD Convention, article 35, paragraph 3, and article 55 of Additional Protocol I of 1977, and certain provisions of the 1980 Convention on Prohibitions or Restrictions on the Use of Certain Conventional Weapons Which May Be Deemed to Be Excessively Injurious or to Have Indiscriminate Effects. In subsequent years, there was little discussion on the protection of the environment in times of armed conflict, although certain conflicts had caused serious environmental damage, due in particular to the large-scale and indiscriminate use of mines, the bombing and shelling of whole areas and attacks on oil-producing installations, resulting in severe pollution.

57. The need to protect the environment in times of armed conflict was brought home to the world suddenly and tragically during the Gulf conflict in 1990-1991. In the months that followed the conflict, a number of meetings and symposia were held to discuss the question whether existing law offers an adequate response to environmental disasters. 4/

58. This is not the place for a detailed discussion of those meetings (on which reports have in most cases been published). It is nevertheless necessary to recall briefly the principal questions they addressed and their main conclusions. At these meetings, generally speaking, the idea of creating an entirely new body of international rules for the protection of the environment was rejected. Most experts insisted on the importance of existing law (see sect. I) while acknowledging that there are a number of gaps in the rules currently applicable. The first step, therefore, is to ensure that even more States observe their existing obligations, that they accede to or ratify existing treaties and, at the same time, enact coordinate domestic legislation, including rules in their military manuals.

59. The content of this body of law has been discussed on many occasions. These discussions showed that protection of the environment in times of armed conflict is not provided for only by specific rules on this subject (see sect. I), but that other international rules also make a contribution to that end, for example, certain fundamental principles of humanitarian law, whether treaty-based or customary, the rules of international environmental law and certain rules governing international responsibility.

60. Close attention was also paid to the implementation of existing law. Emphasis was laid on a number of means of encouraging proper implementation. Particular mention was made of dissemination, that is, measures to make the law as widely known as possible, and the very useful role that could be played by

the International Fact-Finding Commission, constituted under article 90 of Protocol I of 1977.

61. It was felt that, while a new body of codified law on the subject would not be justified, there was nevertheless a need to develop or clarify existing law to deal with certain issues, such as:

(a) Interpretation of the specific provisions of the ENMOD Convention and Protocol I;

(b) The simultaneous applicability of the rules of international environmental law and humanitarian law;

(c) Determining what body of law is applicable between a belligerent and States which are not party to the conflict, but are nevertheless affected by means of warfare harmful to the environment;

(d) The need to do more to protect the environment as such and to find better ways of preventing damage to the environment in times of armed conflict.

As mentioned in the introduction to the present report, the United Nations General Assembly also addressed these questions at its forty-sixth and forty-seventh sessions.

62. A fundamental shift in focus on international cooperation for socio-economic development and environmental protection was recorded at the United Nations Conference on Environment and Development, at which 178 States convened at Rio de Janeiro in 1992. The Conference established the prime United Nations objective of "sustainable development". The Declaration of Rio de Janeiro 5/ contained three articles on armed conflict, and the Action Plan, entitled "Agenda 21", 6/ made explicit reference to armed conflict in paragraph 39.6. Both these documents were subsequently endorsed by the General Assembly at its forty-seventh session (General Assembly resolution 47/190 of 22 December 1992).

63. Among them, one should mention Principle 24 of the Rio Declaration, 5/ which reads:

> "Warfare is inherently destructive of sustainable development. States shall therefore respect international law providing protection for the environment in times of armed conflict and cooperate in its further development, as necessary."

and paragraph 39.6 of Agenda 21, 6/ which reads:

> "Measures in accordance with international law should be considered to address, in times of armed conflict, large-scale destruction of the environment that cannot be justified under international law. The General Assembly and its Sixth Committee are the appropriate forums to deal with this subject. The specific competence and role of the International Committee of the Red Cross should be taken into account."

64. Protection of the environment in times of armed conflict was also discussed at the Second Review Conference of the Parties to the Convention on the Prohibition of Military or Any Other Hostile Use of Environmental Modification Techniques, held at Geneva in September 1992. 7/ On that occasion, the Convention's field of application - and especially the type of environmental modification techniques which should be prohibited - was discussed at length, but the participants did not reach a unanimous conclusion. The question might be submitted to the Consultative Committee of Experts which could be convened at the request of one or more States Parties under article 5 of the ENMOD Convention.

E. Work carried out under the auspices of the International Committee of the Red Cross

65. To discharge the mandate assigned to it by the General Assembly in decision 46/417 and by resolution 47/37, ICRC convened three meetings of experts to study the problem of protecting the environment in times of armed conflict. The first meeting, which was held at Geneva from 27 to 29 April 1992, brought together over 30 experts from the armed forces, the scientific community, academic circles and Governments as well as representatives of international governmental and non-governmental organizations. All were invited in their personal capacity.

66. The second and third meetings, which were held at Geneva in January and June 1993, respectively, brought together the same group of experts and several other participants, thereby ensuring broader geographical representation.

67. The goals of the meetings were as follows:

(a) To define the content of existing law;

(b) To identify the main problems involved in implementing this law;

(c) To identify any gaps in existing law;

(d) To determine what should now be done in this area;

(e) To draft model guidelines for military manuals.

68. Reports presented by several experts sparked an initial general debate, during which was examined, inter alia, the question of whether or not the rules of international environmental law were applicable in times of armed conflict. Most participants concluded that these rules could be presumed to be applicable at least to a certain extent, in so far as they do not contain specific disclaimers, but that further research on this question was necessary.

69. The importance and relevance of the currently applicable rules (whether of treaty-based or customary international humanitarian law, international environmental law, or rules governing international responsibility) were clearly reaffirmed, as was the need to make these rules more widely known, in particular by means of guidelines expressly drawn up for members of the armed forces.

70. The need to clarify certain aspects of applicable law and to look for ways of protecting the environment in times of non-international armed conflict was recognized.

71. Finally, there was large support for the proposal made by some experts to protect - subject to conditions that remain to be set - nature reserves, which could be likened to demilitarized zones or other protected areas. The United Nations list of parks and equivalent reserves and the biosphere reserves designated by the United Nations Educational, Scientific and Cultural Organization (UNESCO) provide available references for identifying such nature reserves on maps for reference with military manuals. Priorities might be selected from these lists.

72. During these meetings a list of the most important matters to be discussed was drawn up. The following is a summary of the discussions on the specific issues listed.

1. The notion of the global interest of the international community for the protection of the environment in the provisions of international humanitarian law

73. There is a general interest - going well beyond that of the parties to the conflict themselves - in preserving the environment. Even in times of armed conflict, this general interest should be taken into account by the belligerents when selecting methods and means of warfare.

2. Balance between protection of the environment and military necessity (including the principle of proportionality): need for specific provisions or clarifications

74. It is necessary to underline the need to take environmental protection into account when assessing the military advantages to be expected from an operation. The accepted principles concerning the conduct of hostilities are important and relevant with regard to environmental protection. These include:

(a) The prohibition of acts causing damage that is not warranted by military necessity;

(b) The obligation, when possible, to choose the least harmful means of reaching a military objective;

(c) The obligation to respect proportionality between the expected military advantage and the incidental damage to the environment.

3. Rules of customary international law

75. Customary rules are of great importance. Indeed, some experts even felt that these rules were the key to protecting the environment in times of armed conflict, in particular as they prohibited attack on the environment as such.

4. Relationship between international humanitarian law and international environmental law (regional and universal regulations); similarity to the relationship between international humanitarian law and human rights law

(a) Between a State not a party to the conflict and belligerents

(b) Between belligerents

76. The relationship between international environmental law and humanitarian law should be studied in greater depth. In principle the instruments of international environmental law remain applicable in times of armed conflict, although the question of their legal applicability had either not been contemplated or had been avoided in the treaties themselves. There is a need for a study of environmental agreements in general, bearing in mind their applicability in times of armed conflict. Whenever feasible, any new treaty adopted in this area should contain a provision specifically stipulating that it is applicable in times of armed conflict. In addition, new instruments should clearly reaffirm that the duties of States party to an international armed conflict to third States and relating to the protection of the environment are, as a matter of principle, not affected by the existence of an armed conflict.

5. Role of the Martens clause in the protection of the environment

77. The Martens clause 8/ states that in cases not covered by specific provisions, civilians and combatants remain under the protection and authority of the principles of international law derived from established customs, from the principles of humanity and from the dictates of public conscience. Its validity in the context of the protection of the environment in times of armed conflict is indisputable.

6. Interpretation of and relationship between the rules of Protocol I and the ENMOD Convention

78. The respective raisons d'être of the provisions of Protocol I and of the 1976 ENMOD Convention are different. The need to interpret more clearly the terms employed in these two treaties might be included on the agenda of the Consultative Committee of Experts under ENMOD, which might be convened by 1995.

7. Acceptability of self-inflicted damage to the environment; scorched earth policy and use of the environment by States for their own protection and on their own territory

79. A distinction should be made between environmental destruction by belligerents on enemy territory, as opposed to environmental destruction on their own territory. Self-inflicted damage would occur mainly on a State's own territory. Although the basic rule in such cases is the full sovereignty of the State over its territory, it was noted that this rule is undergoing gradual erosion.

80. Generally speaking, damage to the environment inflicted outside a State's own territory is covered by existing international environmental law and humanitarian law and the present trend towards regulating the protection of the civilian population in enemy territory should be extended to the protection of the environment as such. On the other hand, the question of damage caused by a State on its own territory is more problematical. The answer to it should be found in the law applicable in peacetime, which imposes particular obligations on States to protect their own environment.

8. Protection of the environment in naval warfare

81. Three main questions have to be addressed: (a) the degree to which customary rules of the law of the sea and the 1982 Convention on the Law of the Sea, in particular its provisions on the preservation and protection of the marine environment, should apply in times of armed conflict; (b) the applicability in times of armed conflict of current international legislation for the preservation and protection of the marine environment, especially the conventions adopted by regional organizations or under the auspices of the International Maritime Organization; (c) the applicability to naval warfare of general treaties of international humanitarian law, particularly Protocol I of 1977.

82. It is necessary to continue studies under way in the law of naval warfare and to clarify the content and scope of the customary and conventional law of the sea, especially the 1982 Convention on the Law of the Sea. This would make for greater protection of the environment since it is recognized that, while the 1982 Convention is nearing entry into force, many of its rules are already considered to be of customary nature and have been incorporated into several military manuals.

83. The organizations that have sponsored treaties for the preservation and protection of the marine environment should be requested to examine the applicability of such treaties in times of armed conflict.

84. The general principles of international humanitarian law, in particular those of proportionality and distinction, are applicable to naval warfare. In addition, certain provisions of general treaties of international humanitarian law should apply to naval warfare, notably some of those of Protocol I of 1977, but present texts may be inadequate in the context of naval warfare and could or should be adapted to the marine environment. This might be the case, for instance, of articles 52 ("General protection of civilian objects") and 55 ("Protection of the natural environment") of Protocol I of 1977. Article 56 on the protection of works and installations containing dangerous forces could play (in particular its paragraph 6, providing for the conclusion of further agreements) an important role in the protection of the marine environment. The possible addition of oil rigs and pipelines to the list of works and installations containing dangerous forces might be in particular studied in the context of naval warfare.

85. Furthermore, any action against civilian nuclear-powered vessels and ships carrying oil, liquid gas or other dangerous substances should be carried out taking into account the above-mentioned principle. The possibility to declare

marine areas of recognizable environmental importance non-targets could be envisaged.

9. When should damage to the environment be qualified as a "grave breach"? State responsibility and compensation

86. Any violation of either treaty-based or customary rules attributable to a State would create an obligation on the part of the offending State towards the State or States whose environment suffered damage.

87. According to article 3 of the Hague Convention IV of 1907 and to article 91 of Protocol I of 1977, a State violating an international obligation may be liable to pay compensation.

88. Some violations of article 53 of the Fourth Geneva Convention of 1949 are listed as grave breaches in article 147 of that Convention and thus constitute war crimes, as is violation of article 23 of the Hague Convention IV.

89. Some experts felt that the violations of articles 35 and 55 of Protocol I of 1977 should be made as grave breaches.

90. The importance and relevance of the current work of the International Law Commission has to be underlined, in particular, article 19 of the draft articles on State responsibility prepared by the Commission.

10. Applicability of the precautionary principle to the protection of the environment in times of armed conflict

91. This principle is an emerging, but generally recognized principle of international law. The object of the precautionary principle is to anticipate and prevent damage to the environment and to ensure that, where there are threats of serious or irreversible damage, lack of full scientific certainty shall not be used as a reason to postpone any measures to prevent such damage.

92. This principle appears mainly in recent treaties and other instruments designed for peacetime. Its possible applicability in armed conflict needs further study even if the precautionary principle is indeed already partially present in international humanitarian law treaties, in particular in article 36 of Protocol I, which governs the development of new weapons.

93. Despite the existence of the precautionary principle and of article 36 of Protocol I, it is felt that environmental concerns had been largely ignored during the negotiation of most recent arms control treaties and that the latter had failed to prevent the development of new weapons.

94. Some experts were thus of the opinion that article 36 of Protocol I of 1977 was inadequate to ensure control of the development of new weapons, and that additional control mechanisms should be proposed. One expert suggested that an international body therefore should be established.

11. Protection of the environment in times of non-international armed conflict: content and scope of applicable law; difference with the provisions applicable in international armed conflict

95. Although neither article 3 common to the 1949 Geneva Conventions nor Protocol II of 1977 established a specific protection for the environment in times of non-international armed conflict, the environment is none the less protected by general rules of international humanitarian law (see paras. 18-25 above). Among them, it is worth mentioning articles 14 and 15 of Protocol II of 1977, and provisions of the World Heritage Convention of 1972. The latter, applicable in all armed conflicts, could play an important role; greater efforts should therefore be made to ensure its full implementation.

96. In addition to these rules of humanitarian law, most peacetime obligations resulting from universal or regional treaties remain applicable in times of non-international armed conflict.

97. In some cases, environmental treaties have indeed been applied and respected during non-international armed conflicts.

98. In several countries it has been decided to instruct soldiers to apply the same rules, regardless of whether the conflict was international or non-international. This practice, which makes up for the absence of specific provisions applicable in non-international conflict and corresponds to the Martens clause (see para. 74 above), should be more widely applied.

12. Means to ameliorate the protection of cultural and natural heritage sites in times of armed conflict

99. This topic was recently discussed by a Meeting on Protection of Cultural and Natural Heritage Sites (see paras. 53-71 above). The objectives of the meeting were to make existing treaties 9/ more effective at the practical level and to encourage greater participation in these instruments, under which lists should be drawn up and deposited with the United Nations or UNESCO.

100. A number of practical measures were recommended, including the preparation of detailed maps of protected areas, the elaboration of material for the dissemination of the relevant treaties, and the drafting of guidelines for military manuals.

101. The renewed interest in this field shown by UNESCO was also mentioned. It was hoped that this would enhance the level of participation and improve the implementation of the treaties.

102. The experts took note with interest of those new developments. The importance of establishing strict procedures for the designation of protected sites in the sea as well as on land was emphasized, as was the fact that a protected area should be free of weapons.

103. At the end of their work, the experts encouraged ICRC to pursue its work to clarify and, where necessary, develop the rules aiming to protect the natural environment in times of armed conflict.

F. The position of the International Committee of the Red Cross

104. ICRC agrees to a great extent with the conclusions reached in the various meetings of experts organized in recent years and in particular in the three meetings organized under its auspices. It has reservations about proposals for a new process of codification of the rules protecting the environment in times of armed conflict. For one thing, ICRC feels that the result would be of dubious value and could even be counter-productive. Moreover, the institution believes that, if several aspects of the existing law were elaborated on and if the law were more fully implemented, it would provide adequate protection of the environment in times of armed conflict.

105. ICRC therefore wishes to see a special effort made to increase compliance with existing rules and to improve their implementation. This naturally requires the greatest possible number of States to become party to international humanitarian law treaties and to use the specific means of implementation provided for by these instruments and by other treaties and resolutions.

106. Though it is convinced that faithful implementation of existing law should go a very long way to limiting environmental damage in times of armed conflict, ICRC is quite aware that this law is in need of interpretation, clarification and development. The meaning of certain terms should be agreed on, and a number of specific issues (such as the applicability in times of conflict of rules of international environmental law essentially intended for peacetime and the content of the law applicable to non-international armed conflicts) should be studied more closely.

107. ICRC is also very much in favour of proposals to do more to protect nature reserves in times of armed conflict. Likewise, it feels that careful attention should be paid to the problem of environmental damage caused by the indiscriminate and unrecorded laying of mines. This question should be examined in the review process of the 1980 Convention on conventional weapons.

108. Finally, the use on the battlefield of certain weapons represents, in the view of ICRC, a growing risk to the environment. The law of armed conflict must therefore take technical developments into account and contain their effects. It should be stated very plainly that many methods and means of warfare available today will, if used, inevitably cause serious harm to the environment. Though means should obviously be found to provide a degree of protection for the environment, this should in no way be allowed to relieve those concerned of their duty to settle disputes peacefully, a course which was already advocated by the 1899 Hague Convention on the Peaceful Settlement of Disputes.

G. Conclusions

109. Recent deliberations have clearly demonstrated the need to continue to seek ways of protecting the natural environment in times of armed conflict, and have identified a number of important problems to which realistic and effective solutions must quickly be found and on which specific follow-up action may be taken.

110. The following questions could be examined by the Sixth (Legal) Committee:

(a) Relationship between the ENMOD Convention and the Additional Protocol I of 1977, in particular, definition of the terms "widespread, long-lasting/long-term and severe". These terms call for interpretation and clarification. The Consultative Committee of Experts provided for in article 5 of the ENMOD Convention should examine this question;

(b) Applicability in armed conflict of international environmental law; general clarification and action in case of revision of the treaties. Further study is needed on this matter, and should take into account customary law, international environmental agreements, including the Convention on the Law of the Sea, and regional instruments. It could be carried out by a specialized organization such as the International Council of the Environment, if it were given the necessary resources, and should be based on a review of the most important environmental treaties. The various bodies in charge of the treaties concerned could also play a role, especially with respect to review procedures;

(c) Protection of the environment and restriction on the use of mines; action to be taken during the Conference for reviewing the 1980 Convention. First of all, States should become party to the 1980 Convention. The forthcoming Conference for reviewing the 1980 Convention on conventional weapons should take in due account of the damage to the environment caused by the use of conventional weapons such as mines and incendiary weapons, as well as new weapons. Attention should also be drawn to the obligation to determine the legality of the use of any new weapon. 10/ Existing principles and customary rules should be strictly observed;

(d) Protection of cultural sites and nature reserves and parks. The first step in ensuring protection of natural and cultural sites might be to draw up maps identifying them. IUCN and UNESCO could undertake this task. The guidelines laid down in the 1954 Hague Convention for the Protection of Cultural Property in the Event of Armed Conflict, which established a mechanism for the definition and the registration of sites, could be followed. It might also be necessary to develop existing law in order to afford better protection to sites which are already specifically protected;

(e) Protection of the environment in times of non-international armed conflict; possible application of the rules applicable in times of international armed conflict. This matter requires close attention as the environment must be protected in non-international armed conflicts also. Two observations seem to be especially relevant:

(i) It is difficult to contemplate that acts prohibited in international armed conflicts might be permitted in non-international armed conflicts;

(ii) In some cases, global environmental considerations should prevail over a State's sovereignty;

(f) Means of implementing provisions on the protection of the environment in times of armed conflict; possible role of the International Fact-Finding Commission provided for in article 90 of Protocol I of 1977. The newly established Fact-Finding Commission should play a role in matters relating to the environment, and when necessary call on the service of experts in the matter. Other institutions (including Protecting Powers or ICRC) responsible for the implementation of international humanitarian law should take due account of the provisions on the protection of the environment. Relevant questions should also be inserted in the questionnaires which are part of the reporting systems under various environmental law instruments;

(g) Dissemination of provisions protecting the environment in times of armed conflict. Environmental aspects must be taken into account when disseminating the rules of international law relating to armed conflicts and vice versa. Under international humanitarian law, dissemination of these provisions is an obligation. This is not the case with respect to international environmental law, but it should be encouraged. The importance of public awareness of the existence of the relevant provisions should be stressed. The need to teach those provisions to soldiers and others directly involved in armed conflict should also be emphasized;

(h) Procedure for drafting Guidelines for military manuals and instructions (see annex below). The Guidelines which are submitted herewith have been drawn up in consultation with experts, with two main objectives in view:

(i) To harmonize the Guidelines with the above list of suggested follow-up measures;

(ii) To help Governments to formulate their own national texts.

Future work of the International Committee of the Red Cross

111. ICRC is of the opinion that work in this area must continue. It is determined to fulfil its mandate to work for the understanding and the dissemination of knowledge of international humanitarian law applicable in armed conflicts and to prepare any development thereof.

112. It is thus prepared to continue to contribute actively to the search for appropriate means of protecting the environment in times of armed conflict, by proposing solutions to current problems in this area.

113. ICRC is in particular ready to take three measures which should have a positive impact on the protection of the environment in times of armed conflict:

(a) Organization of meetings of experts, as it did in 1974 and 1976, to prepare the review conference of the 1980 Convention on conventional weapons;

(b) Extension of its dialogue with military and legal circles so as to examine in depth the practical problems encountered in armed conflicts in implementing the rules governing the conduct of hostilities, including those relevant to the protection of the environment, and thus to clarify the meaning of those rules;

(c) Further cooperation in the drafting of rules on the protection of the environment in times of armed conflict for inclusion in military manuals, on the basis of the guidelines.

Notes

1/ See article 5, paragraph 2 (g), of the Statutes of the International Red Cross and Red Crescent Movement.

2/ See Hague Convention IV respecting the Laws and Customs of War on Land, of 18 October 1907, with the Regulations annexed thereto. Hague Conventions V and XIII, of 18 October 1907, on the rights and duties of Neutral Powers also contain relevant provisions.

3/ For the text of the Principles, see Official Records of the General Assembly, Fifth Session, Supplement No. 12 (A/1316), part III. By General Assembly resolution 177 (II) of 21 November 1947, the International Law Commission was directed to formulate the Principles; under resolution 488 (V) of 12 December 1950, Member States were invited to furnish their observations on the Principles.

4/ In particular, the "Conference on a 'Fifth Geneva Convention' on Protection of the Environment in Times of Armed Conflict" organized in June 1991 by the London School of Economics, Greenpeace International and the Centre for Defence Studies; the "Conference of Experts on the Use of the Environment as a Tool of Conventional Warfare", organized by the Canadian Government and held at Ottawa in July 1991; the "Consultations on the Law concerning the Protection of the Environment in Times of Armed Conflicts", convened by the International Union for Conservation of Nature and Natural Resources (now IUCN-World Conservation Union) Commission on Environmental Law and the International Council of Environmental Law, held at Munich in December 1991; the workshop on "Protected areas, war and civil strife" at the IV World Congress on Natural Parks and Protected Areas, held at Caracas in 1992; the "Senior Legal Experts Meeting on Protection of Natural and Cultural Heritage Sites in Times of Armed Conflict", organized by the International Council of Environmental Law, the IUCN-Commission on Environmental Law and the World Travel and Tourism Council, held at Amsterdam in December 1992; and the "Informal brainstorming session on the ENMOD Convention", organized by Canada and Switzerland and held at Geneva in January 1993.

5/ Report of the United Nations Conference on Environment and Development, Rio de Janeiro, 3-14 June 1992, vol.I (A/CONF.151/126/Rev.1 (vol. I)), annex I.

6/ Ibid., annex II.

7/ See the Final Document of the Second Review Conference (ENMOD/CONF.II/11), of 17 September 1991.

8/ See Preamble of the Hague Convention IV of 1907, article 1 of Protocol I of 1977 and Preamble of Protocol II of 1977.

9/ See, in particular, the 1954 Convention on Cultural Property, the 1971 Ramsar Convention on Wetlands of International Importance and the 1972 Convention concerning the Protection of the World Cultural and Natural Heritage.

10/ See article 36 ("New weapons") of Protocol I of 1977.

ANNEX

Guidelines for military manuals and instructions on the protection of the environment in times of armed conflict

I. PRELIMINARY REMARKS

1. The present guidelines are drawn from existing international legal provisions and from State practice. They have been compiled to further the interest of the armed forces in the protection of the environment and to ensure strict adherence to and effective implementation of the international provisions relating to the protection of the environment against the effects of military operations.

2. Domestic legislation and other measures taken at the national level are essential means of ensuring that the international law protecting the environment are indeed put into practice.

3. To the extent that the guidelines are the expression of international customary law or of treaty law binding a particular State, they must be included in military manuals and instructions. Otherwise, the guidelines are suggested for inclusion in such documents as reflecting national policy.

II. SOURCES OF INTERNATIONAL OBLIGATIONS CONCERNING THE PROTECTION OF THE ENVIRONMENT IN TIMES OF ARMED CONFLICT

A. General principles of international law and rules of customary law

B. Main international treaties

(Hague) Convention (IV) respecting the Laws and Customs of War on Land, of 1907, and the Regulations respecting the Laws and Customs of War on Land.

(Hague) Convention (VIII) Relative to the Laying of Automatic Submarine Contact Mines, of 1907.

Geneva Convention relative to the Protection of Civilian Persons in Time of War, of 1949.

(Hague) Convention for the Protection of Cultural Property in the Event of Armed Conflict, of 1954.

Convention on the Prohibition of Military or any Other Hostile Use of Environmental Modification Techniques, of 1976 (ENMOD).

Protocol Additional to the Geneva Conventions of 12 August 1949, and relating to the Protection of Victims of International Armed Conflicts (Protocol I), of 1977.

Protocol Additional to the Geneva Conventions of 12 August 1949, and relating to the Protection of Victims of Non-International Armed Conflicts (Protocol II), of 1977.

Convention on Prohibitions or Restrictions on the Use of Certain Conventional Weapons Which May be Deemed to be Excessively Injurious or to Have Indiscriminate Effects, of 1980, the Protocol on Prohibitions or Restrictions on the Use of Mines, Booby Traps and Other Devices, and the Protocol on Prohibitions or Restrictions on the Use of Incendiary Weapons.

III. GENERAL PRINCIPLES OF INTERNATIONAL LAW

4. In addition to the specific rules set out below, the general principles of international law applicable in armed conflict - such as the principle of distinction and the principle of proportionality - apply to the protection of the environment. In particular, only military objectives may be attacked and no methods or means of warfare shall be employed which cause excessive damage. Precautions shall be taken in military operations as required by international law (see arts. 35, 48, 52 and 57 of Protocol I of 1977).

5. International environmental agreements and relevant rules of customary law should continue to be applicable between the parties to the armed conflict, unless stipulated otherwise. Obligations relating to the protection of the environment towards States not party to the conflict (e.g., neighbouring States) and in relation to areas beyond the limits of national jurisdiction (e.g., the High Seas) are not affected by the existence of an armed conflict, unless stipulated otherwise.

6. Parties to a non-international armed conflict are encouraged to apply the same rules that protect the natural environment as those that prevail in international armed conflict and, accordingly, States are urged to incorporate such rules in their military manuals and instructions in a way that does not discriminate between different forms of armed conflict.

7. In cases not covered by rules of international agreements, the environment remains under the protection and authority of the principles of international law derived from established custom, from the principles of humanity and from the dictates of public conscience (see the preamble of the Hague Convention IV, art. 2, para. 1, of Protocol I of 1977 and the preamble of Protocol II of 1977).

IV. SPECIFIC RULES ON THE PROTECTION OF THE NATURAL ENVIRONMENT

8. The natural environment is not a legitimate object of attack. Destruction of the environment not justified by military necessity may be punishable as a violation of international law (see art. 23, para. 1 (g), of the Hague Regulations, art. 53 of the Fourth Geneva Convention and arts. 35, para. 3, and 55 of Protocol I of 1977).

9. Care shall be taken in warfare to protect the natural environment against widespread, long-term and severe damage. It is prohibited to employ methods or means of warfare which are intended, or may be expected, to cause such damage and thereby prejudice the health or survival of the population (ibid.).

10. The general prohibition to destroy civilian objects, unless such destruction is justified by military necessity, also protects the environment (see art. 23, para. 1 (g), of the Hague Convention IV, art. 53 of the Fourth Geneva Convention, art. 52 of Protocol I of 1977 and art. 13 of Protocol II of 1977). In particular, States should take all measures required by international law with regard to:

(a) Making forests or other kinds of plant cover the object of attack by incendiary weapons except when such natural elements are used to cover, conceal or camouflage combatants or other military objectives, or are themselves military objectives (see Protocol III to the Convention on conventional weapons);

(b) Attacks on objects indispensable to the survival of the civilian population, such as foodstuffs, agricultural areas or drinking water installations (see art. 54 of Protocol I of 1977 and art. 14 of Protocol II of 1977);

(c) Attacks on works or installations containing dangerous forces, namely dams, dykes and nuclear electrical generating stations, even where they are military objectives, if such attack may cause the release of dangerous forces and consequent severe losses among the civilian population (see art. 56 of Protocol I of 1977 and art. 15 of Protocol II of 1977);

(d) Attacks on cultural property, including cultural and natural sites (see the 1954 Hague Convention for the Protection of Cultural Property in Event of Armed Conflict, art. 54 of Protocol I of 1977 and art. 16 of Protocol II of 1977).

11. The indiscriminate laying of landmines is prohibited. The location of all pre-planned minefields must be recorded. Any unrecorded laying of remotely delivered non-self-neutralizing landmines is prohibited. Special rules limit the emplacement and use of naval mines (see art. 51, paras. 4 and 5, of Protocol I of 1977, art. 7 of Protocol II to the Convention on conventional weapons and the Hague Convention VIII).

12. It is prohibited to use environmental modification techniques (i.e., any technique for changing - through the deliberate manipulation of natural processes - the dynamics, composition or structure of the Earth, including its biota, lithosphere, hydrosphere and atmosphere, or of outer space) having widespread, long-lasting or severe effects as the means of destruction, damage or injury to any other State (see ENMOD Conventions I and II).

13. Attacks against the natural environment by way of reprisals are prohibited (see art. 55, para. 2, of Protocol I of 1977).

14. States are urged to enter into further agreements which provide additional protection to objects containing dangerous forces which will have the effect of additionally protecting the environment (see art. 56, para. 6, of Protocol I of 1977).

15. Works or installations containing dangerous forces, or where hazardous activities are being carried out, sites that are essential to human health or the environment, and cultural property, including cultural and natural sites, should be clearly marked and identified in accordance with international rules (see art. 56, para. 7, of Protocol I of 1977 and art. 6 of the Hague Convention of 1954).

V. IMPLEMENTATION AND DISSEMINATION

16. States shall respect and ensure respect for the obligations under international law applicable in armed conflict, including the rules protecting the environment in times of armed conflict (see art. 1 of the Fourth Geneva Convention and art. 1, para. 1, of Protocol I of 1977).

17. States shall disseminate these rules and make them known as widely as possible in their respective countries. They should include these rules in their programmes of military and civil instruction (see art. 1 of the Hague Regulations, art. 144 of the Fourth Geneva Convention, art. 83 of Protocol I of 1977 and art. 19 of Protocol II of 1977).

18. In the study, development, acquisition or adoption of a new weapon, means or method of warfare, States are under an obligation to determine whether its employment would, in some or all circumstances, be prohibited by applicable rules of international law, including those providing protection to the environment in times of armed conflict (see art. 36 of Protocol I of 1977).

19. In the event of armed conflict, parties to such a conflict shall facilitate and protect the work of impartial organizations contributing to prevent or repair damage to the environment (e.g., civil defence organizations), pursuant to special agreements between the parties concerned or, as the case may be, the permission granted by one of them. Such work should be performed with due regard to the security interests of the parties concerned (see art. 63, para. 2, of the Fourth Geneva Convention and arts. 61-64 of Protocol I of 1977).

20. In the event of breaches of the rules protecting the environment, measures shall be taken to stop any such violation and to prevent further breaches. Military commanders are required to prevent and, where necessary, to suppress and to report to competent authorities breaches of these rules. In serious cases, offenders shall be brought to justice (see arts. 146 and 147 of the Fourth Geneva Convention and arts. 86 and 87 of Protocol I of 1977).